

ZHAO ET AL.
"GPS Assistance Messages in Cellular
Communications Networks And Methods Therefor"
Atty. Docket No. CS90038

Appl. No. 09/785,960
Confirm. No. 2853
Examiner K. Ferguson
Art Unit 2682

REMARKS

Request for Reconsideration, Informal Matters, Claims Pending

The final Office Action mailed on 9 August 2004 has been considered carefully. Reconsideration of the claimed invention in view of the amendments above and the discussion below is respectfully requested.

Claims 29-31 are new.

Claims 1-10, 16-18 and 25-31 are pending.

Response to Non-Statutory Subject Matter Rejection

Rejection Summary

Claims 16-18 stand rejected under 35 USC 101 as being drawn to non-statutory subject matter allegedly because the ephemeris data issue identifier is "... considered to be functional descriptive material." Office Action, 9 August 2004, para. 3.

Discussion

Claims 16-18 are drawn to statutory subject matter. The claimed "satellite positioning system ephemeris data issue identifier" is transmitted as a signal to a cellular mobile station. The identifier includes a "first field with satellite identifier data" and a "second field with an ephemeris sequence number". The "ephemeris data issue identifier" is used to indicate when the

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mobile station needs to read and store a corresponding ephemeris data (e.g., by obtaining an ephemeris assistance message from the network). See MPEP 2106, IV, B(c) "Natural Phenomena Such as Electricity and Magnetism". Thus contrary to the Examiner's assertion, the subject matter of Claims 16-18 is statutory. Kindly withdraw the rejection under 35 U.S.C. 101.

Allowability of Claims Over Kingdon & Chen

Rejection Summary

Claims 16-18 stand rejected under 35 USC 103(a) as being anticipated by Publication No. US 2001/0014604 A1 (Kingdon) in view of U.S. Paten No. 6,611,756 (Chen). Official Action, 9 August 2004, para. 4.

Discussion of Claim 16

Regarding independent Claim 16, Kingdon and Chen fail to disclose or suggest a

satellite positioning system ephemeris data issue identifier for transmission to a satellite positioning system enabled mobile station in a cellular communications network, comprising:
a first field with satellite identifier data; and
a second field with an ephemeris sequence number.

Neither Kingdon nor Chen disclose an ephemeris data issue identifier. The Examiner concedes that Kingdon fails to disclose "... a first field with satellite identifier data; and a second field with an ephemeris sequence number...."

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The Examiner's reliance on Chen to meet the deficiencies of Kingdon is misplaced. In FIG. 1a, referenced by the Examiner, Chen illustrates the complete NAVSTAR GPS navigation data set transmitted by the NAVSTAR GPS satellites. The navigation data disclosed by Chen is not a "...system ephemeris data issue identifier for transmission to a satellite positioning system enabled mobile station in a cellular communications network..." as recited in Claim 16.

As noted, the concept of using an "ephemeris data issue identifier" to indicate when a mobile station needs to read and store a corresponding ephemeris data (e.g., by obtaining an ephemeris assistance message) is not disclosed or suggest by Kingdom of Chen. Therefore there is no reason why one of ordinary skill in the art would combine information from the GPS navigation message with the message of Kingdom. Moreover, as noted above, the message disclosed by Kingdom is a GPS assistance message, which includes ephemeris data. However, the assistance message of Kingdom is not the same as the claimed "ephemeris data issue identifier", which is used to determine whether the MS must obtain updated ephemeris data. Claim 16 and the claim that depend therefrom are thus patentably distinguished over Kingdom and Chen.

Discussion of Claim 17

Regarding Claim 17, Kingdom and Chen fail to disclose or suggest the ephemeris data issue identifier of Claim 16 wherein "... the first field is at least 5 bits, the second field is at least 3 bits." Claim 17 is thus further distinguished over Kingdom and Chen.

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Discussion of Claim 18

Regarding Claim 18, Kingdon and Chen fail to disclose or suggest the ephemeris data issue identifier of Claim 16 is a "broadcast message". Claim 18 is thus further distinguished over Kingdon and Chen.

Allowability of New Claims Over Art

Discussion of Claim 29

Regarding independent Claim 29, the prior art fails to disclose or suggest a

... method in a wireless communication network that communicates satellite positioning system navigation assistance messages to a satellite positioning system enabled mobile station in the wireless communication network, the method comprising:
providing satellite positioning system navigation information in an assistance message; and
providing an issue identifier for the satellite positioning system navigation information.

Kingdon discloses transmitting differential corrections on a broadcast channel every 5 seconds to avoid the delay associated with transmission of the information to the MS from the MLC, and updating the communication network MLC with assistance GPS data (from a GPS reference receiver) and forwarding the assistance GPS data (in an SMS message) to the MS in response to a location request. Chen merely illustrates the complete NAVSTAR GPS navigation data set transmitted by the NAVSTAR GPS

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satellites. The limitations of Claim 29 similar to those recited in allowed Claim 27 except that Claim 29, like Claim 16, is not limited to the specific number bits. No new issues are therefore raised. Claim 29 and the claims that depend therefrom are thus patentably distinguished over the art.

Discussion of Claim 30

Regarding Claim 30, the prior art fails to disclose or suggest in combination with the limitations of Claim 29,

... using the issue identifier for determining whether to update satellite positioning system navigation information stored on a satellite positioning system enabled mobile station.

The prior art does not disclose using the issue identifier for determining whether to update satellite positioning system navigation information, e.g., ephemeris or almanac data, stored on a satellite positioning system enabled mobile station. Claim 30 is thus further patentably distinguished over the art.

Discussion of Claim 31

Regarding independent Claim 31, the prior art fails to disclose or suggest a

... method in a wireless communications network that generates assistance messages including satellite positioning system navigation information and a corresponding value tag for

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communication to a satellite positioning system enabled mobile station, the method comprising:

updating the value tag in the assistance message only when the satellite positioning system navigation data in the message has been updated.

Kingdon discloses transmitting differential corrections on a broadcast channel every 5 seconds to avoid the delay associated with transmission of the information to the MS from the MLC, and updating the communication network MLC with assistance GPS data (from a GPS reference receiver) and forwarding the assistance GPS data (in an SMS message) to the MS in response to a location request. Chen merely illustrates the complete NAVSTAR GPS navigation data set transmitted by the NAVSTAR GPS satellites. The concept of conditionally updating the value tag is covered by allowed Claims 1, 6 and 25. No new issues are therefore raised. Claim 31 is thus patentably distinguished over the art.

Prayer For Relief

In view of the amendments and the discussion above, the Claims of the present application are in condition for allowance. Kindly withdraw any rejections and objections and allow this application to issue as a United States Patent without further delay.

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Respectfully submitted,



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